Abstract

The present invention relates generally to transformation of
algebraic expressions into a standard form, and in particular, to
the equivalence of original and transformed expressions. The
present invention relates to a method and apparatus for performing
such transformation, and also to a computer program product
including a computer readable medium having recorded thereon a
computer program for performing such transformation.

According to a first aspect of the present invention there is
disclosed a method of determining, in a computer environment, the
equivalence, if any, of two algebraic expressions for use in
compiler optimisation of source code and like computing tasks,
said method comprising the steps of:
(a) recasting said expressions into a form of one or more token
pairs arranged sequentially in a string, each said token pair
comprising an operator followed by an operand;
(b) reducing said strings in accordance with a set of
predetermined simplifying rules; and
(c) comparing the reduced strings by matching, to detect
equivalence of the two algebraic expressions.